

Sperm Cryopreservation Requirements

Sperm cryopreservation is a fairly straight forward procedure in mice. I require two proven breeder males from each line (this is a terminal procedure). Ideally, they are 3-9 months of age, have successfully bred recently but not in the 7 days leading up to the freezing. Mice should be individually housed in the week leading up to the date of freezing. These are ideal parameters for the best results but are flexible as I have frozen down older virgin males with success.

I will freeze down approximately 20 straws per line and store them in my liquid nitrogen tanks. For quality control purposes I will thaw one straw and perform an IVF, culturing the zygotes to blastocysts in order to confirm acceptable fertilization rates. Approximately 1 in 100 lines fail and will need to be repeated, so I ask labs to maintain their lines until confirmation of a successful IVF. It takes a day to freeze and normally takes a few weeks to schedule the IVF. Each straw is capable of fertilizing hundreds of oocytes and therefore taking a single straw for QC is not detrimental to the inventory. The benefit to sperm cryopreservation over embryos is that straws can be shipped around the world on dry ice saving significantly on the shipping costs. The costs of freezing down a line is \$750 per line or \$1,100.00 for two lines when frozen down at the same time. This includes the storage costs for the first year. Each additional year is a \$105/year/strain, normally billed in April of the following year.

If you are interested in freezing down your line, fill in the Request sperm cryopreservation services form and send to transgen@ucalgary.ca.

If you have additional questions, please let us know at transgen@ucalgary.ca.